

Center for Strategic and International Studies

TRANSCRIPT
Energy 360°
“Why Permitting Reform Matters”

DATE
Monday, August 5, 2024

FEATURING
Linda Stuntz
Senior Adviser (Non-resident), Energy Security and Climate Change Program, CSIS

John Larsen
Senior Associate (Non-resident), Energy Security and Climate Change Program, CSIS

CSIS EXPERTS
Cy McGeady
Fellow, Energy Security and Climate Change Program, CSIS

Quill Robinson
Senior Program Manager and Associate Fellow, Energy Security and Climate Change Program, CSIS

Transcript By
Rev Transcript
www.rev.com

Cy McGeady: We need a bigger grid. We also need a lot more generation. So, this is where the wind, the solar, it's going to be some nuclear as well. It's going to be some gas fired capacity as well. We need more generation. But in order to make a market work, in order to make a power system work efficiently, reliably, and at low cost for ray repairs, including these industries, you need a robust connective tissue.

Quill Robinson: Hello and welcome to Energy 360, the podcast from the CSIS Energy Security and Climate Change Program. I'm Quill Robinson. This week we discuss permitting reform. Joining me is Linda Stuntz, who is a senior advisor with CSIS's Energy Security and Climate Change Program. Prior to her retirement in 2018, she was a founding partner of the law firm Stuntz, Davis & Staffier, P.C. in Washington DC. Ms. Stuntz has served as a Deputy Secretary of the United States Department of Energy under George HW Bush. Between 1981 and 1987 Ms. Stuntz was a minority council to the Energy and Commerce Committee of the United States House of Representatives. She has served on the board of the directors for EIX and the board of directors for Southern California Edison. Also joining me is John Larson. John is a senior associate with CSIS's Energy Security and Climate Change Program. He is also a partner with the Rhodium Group where he specializes in the analysis of national and state energy and climate policy, market trends, and emerging clean energy technologies.

He manages a multidisciplinary team of energy modelers, policy specialists, and system analysts focused on accelerating America's transition to a net zero economy. Previously, John worked for the U.S. Department of Energy's Office of Energy Policy and Systems Analysis, where he served as an electric power policy advisor. Before working in government, John led the federal and congressional policy analysis for the World Resource Institute's Climate and Energy Program. Finally joining me is Cy McGeady, Fellow with CSIS's Energy Security and Climate Change Program. Let's dive in. Linda, John, Cy thanks so much for joining me to discuss this important topic. Yesterday, the Bipartisan Energy Permitting Reform Act of 2024 was passed by the Senate Energy and Natural Resources Committee. This has really reignited hope for permitting reform this Congress. Before we dive into the bill, let's start more broadly. And Linda, I'd like to start with you here. Could you just tell us what exactly we mean by permitting reform?

Linda Stuntz: It's a great question. I think it means permission in its simplest way, permission, and I think particularly permission to build infrastructure, whether it's transmission lines or gas pipelines or telecom or a host of other things we can get into later. But it really is, and I think importantly, it's not just federal, which we tend to focus on here in the Washington area, but a lot of the issues are aligning with state and local

authorities and matters of particularly local interests, noise ordinances that have affected storage for. So I think it's all that, but fundamentally it's permission to build the infrastructure we need to address climate change and energy security in an affordable way.

Quill Robinson: And John, to bring you in here, to what extent is permitting reform an energy sector issue versus more of an economy wide issue?

John Larsen: It's definitely not just an energy sector issue, although that's a big part of this. We'll talk more about that as we go, but I mean, I don't think anybody needs to go far to find examples, say in the housing market, for example, of barriers to building things or law timelines or lots of legal challenges that you get through that process to try and get something built. But to Linda's important point, there are different types of permitting challenges at different levels of government and different parts of the economy are affected at different ways that those different levels. So that is worth noting here. Like housing for example is largely a local and state permitting challenge, whereas with energy you've got a little bit of every level in there. It can be different across different parts of the economy.

Quill Robinson: John, this is clearly an important issue when it comes to many different matters of national interests from climate change to economic security. But I'm curious, where exactly does permitting fall in this hierarchy of factors when we're thinking about macroeconomic factors involved in U.S. economic competitiveness, particularly compared to emerging markets or other peers around the world?

John Larsen: I think there's a lot of layers to this. Just looking at different components of the Inflation Reduction Act, for example, you have lots of incentives and tax credits focused on new manufacturing of clean energy technologies and have seen a giant surge in investment in those spaces. It is notable that most of the actual on the ground investment is happening in states with relatively streamlined permitting regimes. At least in that particular corner. The incentives are driving investment and people are able to build things at least in certain parts of the country. When we're talking about other goals, say just in that one bill in the inflation reduction act, I'm just picking up this to make it a little more manageable here, but there's lots of other places you could look. Building out new clean generation is hitting headwinds on the permitting inciting front. I mean, there are other issues too.

We are not seeing the commensurate surge of deployment you would expect from massive long-term, very lucrative task credits for clean generation in part because of some of these other siting and permitting challenges. So we are seeing an increase, but I mean as far as what say

analytical shops like Rhodium Group expect, we are still a long ways off from major takeoff and that just shows you that while you can bring a cost down for some of these technologies and make it a no-brainer to invest, there are other non-cost barriers citing and permitting primarily that are in the way.

Quill Robinson: Right. And the amount of money that we're spending here is gargantuan. Hundreds of billions of dollars have been catalyzed already and we're looking at well over a trillion dollars over the next decade. You've really focused on transmission and strategic implications in your research here at CSIS. A sizable portion of the bill focuses on transmission. Why exactly is it that building out our transmission system is so important?

Cy McGeady: I have this sense that you look at the Inflation Reduction Act and also IAJA and this suite of federal legislation is doing, it's making it way more attractive to invest in the United States just from the economics of individual projects or specific technologies. We sort of turned on the money hose here and I think we're seeing some positive effects if it's inducing private investment. And I think this is the vision what we haven't done. It's sort of like an economy-wide macro level is addressed some of the factors that made us fall behind, let's say China on an industrial capacity, a manufacturing capacity, a clean energy deployment scale on those fields. We have fallen behind in China. We've shored much of our economic capacity, especially in industry manufacturing. Why is that? Well, there's a lot of big factors going on there. I mean, we don't want to attribute all of that to permitting.

That would be excessive, but there is a degree to which we need to reconcile the money hose that we've unleashed with this legislation with the sort of structural factors that are quite tricky, sticky, less easy to deal with on a political level, but which I think sort of set up the story for why we're sort of needing to subsidize industry in the first place. And then of course on transmission. Yeah, permitting is a major hurdle. If you look at the sun zeal line, it's sort of the poster child for this 17 years of development takes 17 years to get through the permitting cycle. It's finally got a notice to proceed from the federal government, but it's still actually being sued. It's not done. The battle isn't over there despite it sort of being triumphed as okay, finally we're over the hurdle, 17 years, it's still going. So that is just far too long to build any sort of project. And the linear infrastructure transmission pipelines, you could think of, rail lines and roadways perhaps in this category too are uniquely difficult because of the many, many jurisdictions. So certain types of infrastructure and certain segments of the economy are permitting heavy, and those are the segments of the economy that have

suffered most under sort of an onerous and cumbersome and costly permitting regime.

Quill Robinson: Both Cy and John pointed out how the IIJ and IRA have really drawn focus to permitting reform. You've worked in the energy sector for decades now, both in the federal government and the private sector. I'm wondering, is permitting reform new to the Washington Lexicon or has this kind of always been a feature of discussions around energy policy in the U.S.?

Linda Stuntz: It has been a feature certainly throughout my career and just as an example, and I'm old enough, I could say this, in the 2005 Energy Policy Act, there was a provision to make the DOE lead agency for permitting of renewable projects on federal lands because I personally had the experience of working with a California utility trying to build transmission to access wind that had to deal with the Forest Service, the Park Service, the Department of Interior, the Department of Agriculture, and the gap between national and regional offices, which sometimes can be entirely different cultures. So, DOE got this authority, but you know what? They didn't do anything with it. It's tough, right? It's tough for any agency to ride herd on other agencies. I was happy to hear recently from a senior White House official in charge of IRA implementation that they had rediscovered that provision and that they, because I asked about this, this is a real problem for building of infrastructure and it's something that might be more doable more quickly than some of these other things for basically the federal government to get its own house together on this permitting journey. She said they're going to do it now. I hope this time they'll succeed because it's a real issue. And that's just one example.

Quill Robinson: So Linda, as we mentioned, the Manchin Barrasso bill just passed through committee this week. The goal is to accelerate the permitting process for various types of projects, onshore and offshore, fossil and renewable projects, mines LNG, export terminals, hydropower, electric transmission. It also uses a variety of different mechanisms to reach this goal or to move towards this goal of accelerating the process, including shortening the judicial review timelines and also requiring interregional transmission planning. Do you think that it's addressing the right choke points in the permitting process for energy projects in the U.S.?

Linda Stuntz: I think it's a, trying transmission is hard. I spent a lot of years working with a transmission company just because unlike natural gas pipelines, as you knows, knows well the federal government does not have siting authority for transmission. It lies with the states and back before we restructured the industry, the way we have utilities sort of

did it top down to serve the customers in their states. They did it as part of planning generation. It was all, but we have a different market now and getting states together to decide an inter-regional transmission project, for example, that really enables the best access to renewable resources, which tend to be located far away from the loads that they serve to get them to the loads has proven to be very difficult. So, I applaud the bill for trying to tackle this issue, getting rid of the step of national interest transmission corridors.

I think that just added a layer, another opportunity for lawyers to do well, but probably not anybody else. But I still think there's real issues there in part because I don't know whether we have to think about some sort of consent-based citing, it's a flyover state issue. We have to build lines across states that are not themselves the beneficiaries of that line. And until we can align cost, and I think that's in the bill, I think they're taking a crack at it until we can align the people who pay for these lines with the people who benefit from them. And it's something FERC's struggled with for 20 years, but I think this bill recognize it, so I hope that there might be promise there. I don't think it will be sufficient, but I think it's a necessary start.

Quill Robinson: John, so this was a bit of a political bargain. There were over two years of committee hearings that built up this bill, and we heard this from many of the members yesterday. Many Democrats said, hey, we maybe don't like the fossil provisions, but we're excited about the transmission provisions and vice versa. Do you think that it's addressing the right choke points and that this sort of political bargain, grand bargain process method is the right way to go about it?

John Larsen: The most effective bill is the one that gets over the finish line if that in this current political climate, this congress, you've got to give somebody to get something, and I think this bill is one reflection of an attempt to do that. One way to think about it is there are not a lot of opportunities in Congress to do anything period on any issue. This is one opportunity, maybe the first in a couple of years, maybe the next opportunity may not be for a decade to do something positive on energy citing and permitting, particularly on the clean energy side, particularly on transmission. And if we don't get this, there will be dozens of projects, hundreds of projects that will be faced the same headwinds they've been facing for that much longer, and it's going to slow down decarbonization in the United States. Does that mean that mandating a minimum level of lease sales for onshore and offshore acreage is going to completely erase any gains we might get from that?

Probably not. I mean, we can talk more about that in particular when you reflect on the point that the minimum lease sale level here is far

below the historical average and at least two thirds lower than what was happening under the Trump administration. Just to put that in context, I do think also to Linda's point on transmission, I mean this has just been by virtue of the bottom up development of the electric power grid over a century. We're just in this stuck situation where we can't treat transmission like it should be treated when across the state lines. And it appears that the mechanisms and new provisions in this proposal, this compromise could go a long way to clearing out the clutter and allowing some good projects to move. We'll need to see what happens, but at the same time, it's definitely very promising.

Quill Robinson: Cy on that transmission point. Can you help us zoom out for a second and just explain why it is so important that we update the way that we build out transmission in this country, and then also walk us through some of the provisions in this bill and how they might be significant?

Cy McGeady: Yeah, definitely. I mean, I think transmission is getting a lot of the attention. I think that's the real prize for the Democrats here.

Quill Robinson: Would You say that for the bill itself?

Cy McGeady: There are some important, I think changes to NEPA are important. If you really zoom in on permitting, and again, you asked this question at the beginning, is this all permitting? Well, no. The transmission provisions are primarily about planning. The NEPA provisions are really about NEPA, which is proper permitting process stuff. And I think those reforms are important. I think they lay the groundwork for continued reform of that process so that it makes more economic sense and produces better outcomes. More projects get permitted at lower times, and yet we still sort of have the positive environmental outcomes that we're looking for. Zooming in on the transmission permitting, it's really about planning about building a transmission grid that is capable of serving the electric demand needs of this country over the next 100 years.

Quill Robinson: Something's changing right now. There's an important part of this story around load growth.

Cy McGeady: I think there's two things driving the political interest. There's the inflation reduction act that has made the building of renewables far more attractive than ever, and so there's a demand for transmission capacity from that sector. But also on the flip side, the inflation reduction act and the IIJA has just catalyzed a huge surge in demand growth from large manufacturing sites, industrial sites. And then of course you've got artificial intelligence driving demand, increased electricity demand from data centers. You've also got the background of

electrification, right? Regardless of how fast you think EVs will be adopted, they are being adopted and that represents a source of demand growth as well. So electricity demand in this country is about to grow at a pace that it has not grown in multiple decades to enable that, to let that happen because it won't happen if the grid can't serve the electricity demand.

We need a bigger grid. We also need a lot more generation. So this is where the wind, the solar, it's going to be some nuclear as well. It's going to be some gas-fired capacity as well. We need more generation. But in order to make a market work, in order to make a power system work efficiently, reliably, and at low cost for ray repairs including these industries, you need a robust connective tissue. And that's what transmission provides. And that's why it's so crucial that we get these ultra high voltage, the big region spanning multiple states. Those projects provide the most sort of strategic value to the U.S. project here, which is in re industrializing, sort of securing the clean energy advantage of the future. And the strategic value associated with these projects is really undervalued by the current paradigm, right? States aren't in a position to assess the strategic value associated with transmission projects of this scale. They're focused on their rate payers and their local state politics. That's fair within their jurisdiction and their authority. But we need to think bigger. This planning model that this bill advances encourages states to participate in regional planning and then those regions to join together at the inter-regional level to sort of think big and deliver projects that really set the U.S. economy and the electric power sector more specifically up for long-term strategic advantage.

Quill Robinson: As we think about a hundred years of economic competition with the globe, that visual of interconnective tissue is really helpful, I think.

Cy McGeady: You've got supply. We're connecting more generation resources than ever before and we've got demand growth. So we've got supply and demand growing. If you don't have the connective tissue that makes those things work, you're going to get inefficiency. You're going to get costs, you're going to get lower reliability than you could otherwise have. Low reliability is effectively a cost on rate payers and businesses. So it's really crucial to scale that central piece. At the same rate, we try to scale the supply and the demand and permitting planning it is sort of uniquely burdensome on transmission and especially the high voltage transmission. And this legislation really understands that and targets the high voltage transmission that it's the most valuable.

Quill Robinson: Absolutely. So, John, you touched on something earlier that I think we should spend some time on here, and that's the emissions trade off of

this bill. It includes fossil provisions that will benefit the fossil fuel industry and fossil production in the U.S. It also contains, as we've just discussed, transmission provisions that are going to be very important for building out renewables as well as permitting reform for renewables as well. So is this a win for climate? I know that's a big question, but how should we be thinking about this as analysts? Do you think this is a net win when it comes to greenhouse gas emissions?

John Larsen: Yeah, I mean, we're looking at this really closely right now. Rhodium Group, a lot of people are looking at different aspects of this. I mean, my initial reaction is it's a net win. We need to get our arms around it a bit more, but I think, let me kind of very quickly unpack why my gut reaction is where it is. Yes, there are many lease sales. It is worth noting that just because you put something up for sale doesn't mean it gets sold. Usually, it's like single digit to low double digit fractions of lease sales are what actually get leased usually. And even of that, not all of those leases actually get developed. The actual change in development from these lease sales will be small because those new public lands developments are competing against the Permian and other private land spaces. The net impact on total U.S. production might be zero if you're just pulling investment away from private land development. What that means is almost no net change in emissions on the production side. I'm just kind of painting the picture. We have not gotten the numbers solid on this yet. The LNG piece is the other big fossil piece. I would just note DOE historically has not been the bottleneck for permitting. It's been FERC, DOE has approved far more projects than FERC has so far today, despite the pause that Biden administration put in place.

Quill Robinson: John, just on that point, we're not looking at this bill necessarily passing tomorrow. So the pause is likely to be over by early next year. So this is not likely going to change the scenario fundamentally when it comes to LNG exports.

John Larsen: Yeah, it's really, I guess I was getting at what's the counterfactual? What does a 90 day need to make a decision mean versus where we currently are? And the answer is, I mean, they can still say no within 90 days if they find a totally egregious application there. On the LNG side, it's like what are we displacing out in the world, which is the ultimate question everybody asks on LNG. Is it coal in Asia or is it renewables in Africa? And the answer might be it depends. Over time, there is still at least a 50% increase in LNG export capacity already permitted and will be built. So there's just an open question too about how much more is coming, right? I'm not trying to say we know for sure any of the answers here, but it's very uncertain and not a slam dunk that emissions will go up because of the LNG provisions reflect that.

On the other side here, just to put this in context, our latest current policy forecast, Rhodium current policy forecast for the U.S. has the upper bound 180 gigawatts, a year of new clean generation getting added starting in 2030. So like the early 2030s every single year. Wind, solar batteries, 180 gigawatts. The recent historic record is one sixth of that. How you cite and permit six times as much when we're already hitting headwinds on one sixth of that in development is an open question to me to be honest, right? And by the way, in that scenario, we have the U.S. getting to 55% below 2005 levels by 2035, a little beyond the 2030 target. All of that hinges on success in the power center in getting that clean energy online and getting it online cheap and reliably, which gets to the transmission point. We are concerned that the headwinds that are currently in place that many of which would be addressed through this bill, will prevent that kind of outcome, will prevent that clean energy addition.

There are lots of other things. The RTOs got to get their act together on interconnection queues, for example, right? There are other challenges. The way we view this is that there are multiple mechanisms in this proposal that would increase the likelihood of the U.S. achieving the best part of our emission projection range out over time. And meanwhile, the fossil provisions would do little to push in the other direction. That's kind of how we're looking at it right now. Now, like I said, we're diving in, others are too, to get numbers around all that. We hope to have something helpful down the road, but one week with this bill, that's kind of my take on it personally.

Quill Robinson: Linda, what's your perspective on this question of whether this permitting reform bill is a win and then also what needs to happen in the future to really reach those goals that John is talking about?

Linda Stuntz: I do think it's positive, and I think to simple the recognition, I agree with what John has said, the recognition that this is essential if you're going to meet your climate goals. And frankly, even if you don't care about that or care less about that, if we don't do something like this, the changes that are occurring in demand, as Cy pointed out because of AI, because of reindustrialization, just, I mean the numbers that are coming in looking at analyst reports, not partisan, but it's staggering and we cannot react to this new surge of demand under the processes we have now. We simply aren't agile enough. We're not going to be quick enough. So would be helpful. I think it's necessary. I don't think it will. I mean, I think as people look at the bill, keep in mind I see virtually no way that this gets enacted into law in the traditional way that we all learned about in secondary school conference, both bills and each house passing a bill conference, all that.

I think the key will be there's going to have to be a lame duck. There's going to have to be appropriations bills. Nothing's been passed. The way that the Congress seems to pass bills now is language will go on appropriations bill sometime in December, keeping the government open language that has sufficiently agreed upon that it can catch a ride on that bill. That's the way this is going to happen. And so I don't think we should look at this as a final product. I'm sure as people do look at it, I know it's had a lot of work done it already to get the momentum for that kind of a scenario where it might actually become law. There might have to be some more things done to it. So smart people like John will figure out what else needs to be done. But I think you're taking the right perspective, which is to look at it realistically in terms of positives versus negatives and needs. California itself, the governor of the California Energy Commission has saying, we got to do permitting reform ourselves, or we're not going to meet the goals they've set, which are as aggressive as any in the country. So, if they recognize it, I would hope, I think this is a sign that the U.S. government is recognizing this and we can get something done.

John Larsen: I want to maybe connect two things that both Linda and side said. So, we've looked at the electric demand issue and the numbers I just threw out there incorporate a 30% increase in electric demand from today by 2035 for all the drivers that Cy was just talking about, vehicle electrification, AI and data centers, new industrial activity, all that stuff is in there. That's a 2% compound annual growth rate from today to 2035. U.S. hasn't seen that kind of growth since the nineties. The nineties was a very different time in the electric power sector, the rise of RTOs, they weren't even really there yet. You met the default choice for meaning new load was coal gas. You didn't need to answer the transmission question to do that. We also were a lot less crowded of a country. There's been at least another several tens of millions of people added to the population at that point of lots of new development.

If we're going to have electric growth like we saw then and not have to build out a fossil to meet that demand, we need to have, I'm saying the reverse, what I said before, basically forget about enabling the clean. If you want to avoid choosing the other stuff here to the extent you can, we need to make it easier to build clean energy and we need to make it easier to connect to the grid and move it around. And this bill actually, I mean I was struck, it addresses both of those issues had on. It may not clear up everything, but it certainly would be a big step.

Quill Robinson: John, is there anything else that you would add in this broader ecosystem of permitting reform kind of loosely understood that we

should be thinking about perhaps beyond this bill to reach those very lofty goals that you described?

John Larsen: Yeah, I mean, a few things not in here that have come up in other conversations around this topic are like our pipeline issues. And I mean, natural gas does not have so much of a permitting challenge. But hydrogen pipelines, CO2 pipelines, both of those, the federal jurisdiction around those and clarity and just process are going to be really important. If we're going to have a serious carbon management industry in the United States, if we're going to have a clean hydrogen industry in the United States at scale, you need those provisions in soon to enable an industry that's going to be thriving in a decade or two, right? That's a longer term thing. And maybe that's why it's not in here because clean energy is wind and solar is more front and center. But those are a couple things that I would point out. If someone could get creative in using federal carrots to get states to do permitting reform, I think that would actually be really, really important in the long run. That is obviously not on the table at the moment and probably a pretty big reach, especially for solar. A lot of this is state challenges or local and to really move forward, solar's getting so cheap, it's an issue in places that you wouldn't think of as solar being a major resource like Michigan, for example, or New York. Thinking through how to make that happen at some point down the road would be important.

Quill Robinson: And Linda, this is something that you brought up at the top of the podcast was this is not just a federal issue, it's also a state in a local issue as well. How would you weigh the importance of federal permitting reform and then state and local permitting reform?

Linda Stuntz: I think it takes both. It is particularly for the grid, because the federal government does not have citing authority for transmission. What constitutes transmission itself can differ by state actually and by systems. Sometimes it goes all the way down to 69 kv. I don't want to give lawyer all out on you, but it's going to take both because particularly the clean energy, just because we know what's associated with, and the paradigms are out there for fossil, but for clean energy. I know trying to get a battery plant built in California, we really have had a substantial delay at Edison. There were local noise ordinances. There are justified concerns about fire and how to manage that. And so we have to find a way, and I think the states themselves are this, the states who want to move forward. How do they get it done? I mean, as you likely know, Cy there's solar that's being curtailed every day in California and probably Texas in the best solar times, and the batteries help sop up some, but most of it is being curtailed because of a congestion on the grid. It can't get from where it is to where somebody

could actually use it outside California, which is already saturated. And so that's why we need state and federal reform.

Quill Robinson: So Cy, I want to end with you here. Transmission, big chunk of this bill, you've been talking about 10 years, a hundred years, the long view on this issue of transmission. What else needs to be done?

Cy McGeady: Best case scenario that these transmission provisions go through, it's still a long road before a transmission project is delivered based on this, right? Because what happens is this bill asks FERC to propose and issue a new order. So that takes some timeline for FERC to do that. We saw how long it took for FERC to deliver the recent order, 1920, which covers regional transmission planning. That's the timeline. And then once FERC issues that you go through litigation pushback request for rehearing, that's happening right now with FERC order 1920. So you have that process and then the ISOs and the RTOs, the regional transmission planning organizations have to actually comply with this and get together and actually figure out how they're going to do this planning and actually propose a project. And then those projects have to actually go through the permitting process, let alone get built, and let then enable other things to get built and let alone have an impact in the grid.

So these provisions are long-term provision. This won't have an impact next year. Let's say it got past this year somehow it won't have an impact next year or the year after. It is a decadal scale that we're talking about with these transmission provisions. I think in general, we need to think on that scale because the demand growth story that John's talking about 2% growth over the next decade. That's a long-term story. The overall electrification of the U.S. energy system and the electricity intensity of gross domestic product is likely going to proceed. And that has profound implications for the role of the electricity in the overall economy and its role in enabling us to compete. Let's say you want to compete with China on economics. You want to reshore industry because you want to bring back jobs. You want to create the social benefits, and you also want to achieve the strategic benefits.

Well, that requires a lot of energy and it requires a lot of electricity. And that's a process that's going to take decades to build. And we have to think strategically. So I would say this transmission stuff already is looking at that scale. There's a lot of work done still to be done on the permitting side. This actually, I've been talking about transmission, but there's very little about permitting really in the transmission provisions. And so there's still a lot of work to figure out how at the federal level, at the federal state interaction, as Linda said, or John suggested, maybe there's a way to compel or incentivize state

permitting that's more favorable. And I think culturally, how do we just figure out how do we change the bargain as it relates to local power, local input? The whole sort of nationwide permitting regime, I think probably needs to be rethought. And that's not something that's in this bill. It's not something that can be in this bill, but it's something that I think will continue to percolate in the policymaking discussion because the issues are so profound across not just the energy sector, but the economy as a whole.

Quill Robinson: Linda, John, Cy, thank you so much for sharing your insights today.

Thanks to Linda, John, and Cy for their insights. You can find more episodes of Energy 360 on our website, [csis.org](https://www.csis.org) or wherever you listen to podcasts. Follow us on social media for updates from our team. And as always, thank you for listening.

(END.)